on a lion couchant. Round the pedestal, divided into Gothic compartments, are placed shields, setting forth the arms and achievements of the House of Percy and its alliances. The bearings are chiselled in relief. The whole is surrounded by a bronze railing of Gothic design. The monument is erected at the expense of the present duchess dowager. St. Paul's Church has been only recently erected by the late duke, from designs by Mr. Salvin, in the Gothic style of architecture.

Glasgow.—Buildings are being demolished to make way for the erection of a new Post-office. Improvements are in progress in the unsightly neighbourhood between Buchanan-street and Cathedral-street.

Castlecellan (*Newry*).—A new church, from a design by Mr. Charles Lanyon, architect, in the Gothic style, is in course of erection near the seat of Earl Annesley, and chiefly at his lordship's expense. The edifice is cruciform, with tower and spire, and will contain sittings for 800 persons. The roof, interiorly, will be open and carved. The cost will be about 5,000*l.* Mr. R. Cherrey, of Loughgall, is the contractor.

Miscellaneous.—The Treasury have sanctioned an enlargement of the entrance of the new Limerick Docks to 70 feet, and for vessels drawing 20 feet of water.——The Bishop of Durham has given 300*l.* towards the erection of a church at Pantasa, Wales, to take the place of the one erected by Lord Feilding, previously to his seceding to the Church of Rome.——The new church of St. James, Lathom, in the Ormskirk parish, was consecrated, on Tuesday week, by the Bishop of Chester. The edifice was built and endowed by the late Earl of Derby.——The foundation-stone of Trinity Church, Langley, parish of Hales Owen, was laid by Lord Lyttelton, on Thursday in week before last.——An industrial school has been built at Gainsborough, and was opened on Wednesday week.

COATING METALS WITH METALS FOR BUILDING PURPOSES.

MESSRS. H. GRISSELL and REDWOOD have patented five distinct processes for coating metals with other metals. We take from the *Chemical Record* a description of three of the processes.

First Process: Coating Iron with Zinc.—To accomplish this, a bath or vessel of iron or other suitable material is employed, in which the zinc is melted by means of heat: on the surface of the melted zinc a thick stratum of chloride of zinc is then placed. When the metal and the chloride are in a state of fusion, the iron is dipped into the metal through the covering of fused salt, and thus becomes coated with zinc. If, however, it is found in practice that a sufficient quantity of zinc has not adhered to the surface of the iron, a small quantity of powdered sal ammoniac is sprinkled on the iron, which is then again immersed in the melted zinc. Instead of chloride of zinc, a mixture composed of eight parts of chloride of zinc and ten parts of chloride of potassium may be used, or a mixture of equal parts of chloride of zinc and chloride of sodium, or a mixture of about equal parts of dry sulphate of zinc and chloride of sodium or chloride of potassium

The patentees claim the use of chloride of zinc, applied as above mentioned in the fused state; also the use of the various mixtures enumerated.

Second Process: Coating Zinc, Zinced Iron, or other Metal with a Metallic Alloy.—For this purpose a bath or vessel of iron or other suitable material is used to melt the alloy. On the surface of the melted alloy a stratum composed of equal parts of chloride of zinc and sal ammoniac is placed, and the metal to be coated is dipped into the melted alloy, but not allowed to remain therein longer than is necessary to receive a coating. The temperature of the melted alloy must not be carried higher than is sufficient to maintain it in a fluid state. One of the alloys used by the patentees is composed of 10 parts of zinc, 26 parts of tin, and 5 parts of lead. The patentees use also the alloy called "fusible metal," which they prefer to have in the following composition:—bismuth 8 parts; lead 5 parts, tin 3 parts: alloys in other proportions will also do, provided their melting point is below 400° Fahr.

The patentees claim the use, in the manner above stated, of the alloys mentioned or referred to, and of the methods above described for coating metals with such alloys.

Third Process: Coating Iron or other Metal with Tin, or Tin alloyed with Lead.—To effect this a bath or vessel of iron or other suitable material is employed, in which the tin or alloy is melted. On the surface of the melted metal a stratum, composed of about equal parts of chloride of zinc and sal ammoniac, is placed, and the metal to be coated dipped through the stratum of fused salt into the melted tin or alloy, until the required coating is effected. The patentees state that they find it advantageous in the use of this and the preceding process to dip the metal to be coated several times, so that it may be brought into frequent contact with the stratum of fused salt on the surface of the melted metal. They also find it advantageous in the preceding process to dip the iron or other metal into a hot solution of chloride of zinc, rendered slightly acid by excess of hydrochloric acid previous to its immersion in the bath of melted metal.

The patentees claim the use of a mixture of chloride of zinc and sal ammoniac, forming a saline compound, which is kept in a state of fusion on the surface of the melted tin or alloy, in the process of coating metals with other metals.

FOREIGN ARCHITECTURAL AND ARTISTICAL INTELLIGENCE.

Academy of Inscriptions and Belles Lettres, Paris.—The annual meeting of this society took place on the 19th inst. in the great *salle* of the institute, and was numerously attended. The following question had been proposed as the prize thesis for 1851:—"What has been the increase of knowledge on the history of Greek sculpture from the earliest period up to the times of Alexander, obtained from ancient monuments, especially those which have been placed in the museums of Europe since the beginning of this century?" As no memoir has been received relating to this prize, it has been repeated for 1853. A report was read on the labours of the French Academy of Arts at Athens. M. de Sauley concluded the sitting by the reading of a memoir on the Dead Sea, replete with interesting notices on this historical locality.

Munich.—M. Lipp, an artist previously known by his model of the Cathedral of Cologne, is now exhibiting a similar representation of the London Palace of Industry. Its scale has been reduced sixty-one times, the model having a length of 30 feet, its breadth being 7 feet, and the height of transept 2 feet. The metal and glass are scrupulously rendered, so that the structure is imitated with perfect truth. The number of metal columns is 3,842, and that of the smaller supports 2,141. The number of the curious visiting it is very great.—King Maximilian has ordered that the family pictures of the House of Bavaria shall be collected at Schleissheim, and chronologically arranged in two saloons.

Important, if true.—The *Journal de Constantinople* states that a Polish gentleman has made a discovery very nigh reaching the *perpetuum mobile*. The mechanism once put in motion will continue constantly moving for twenty years without requiring any aid or repair. M. Rudwicki thinks that his mechanism will easily supersede all other hitherto known motion—manual and animal labour, water, steam, or wind, the expense of his contrivance being in the proportion of 5 to 100 compared with that of others. The inventor is gone to Paris to lay this discovery before the Academy of Sciences.

Art-Union of Lima.—This town, like so many of an equally small compass, has established a fostering institution for the fine arts. Bürkel, Schleich, and Baade, of Munich; Hummel, of Weimar; and Einsle, of Vienna, have sent specimens for the first exhibition, which is now opened. A Sicilian landscape, by Hummel, is highly spoken of.

Ancient Plans of Towns.—The old library of the Convent of Oliva, near Dantzig, has been sent to Berlin for sale. Amongst its contents are 224 plans of towns of the seventeenth and eighteenth centuries, amongst which are those of St. Petersburg in the year 1744, Constantinople, etc.

A Hotel garni at Jerusalem.—This world-famous resort of tourists belongs to M. Meschullam, and lies within the Damascus-gate to the left of the ascending slopes of the Bezetha-hill; and while it tops over the Tyropœus ravine and the level of Solomon's Temple, commands the view against the Dead Sea and the rock of Moab. If we think of the construction of a northern inn, with all its precautions against wind and weather, the Jerusalem *garni* affords no such comforts and appliances: although it is surrounded on all sides by houses, yet if you wish to pass from one story to the other, or to the different corridors, arcades, and stone stairs, this cannot be done in bad weather without the aid of an umbrella. Most of the rooms have their own separate roofs, which imparts to the building a very original aspect; and there are some which, while offering the finest prospects, are furnished with all the ingredients of Eastern splendour. The prices at this Eastern Clarendon are moderate compared with the English standard.

SIR ROBERT PEEL'S GRAMMAR-SCHOOL, TAMWORTH.

THE Grammar-school at Tamworth was founded in 1620 by the father of the late Sir Robert Peel, and 100 boys were educated in it entirely at his cost, each boy receiving a suit of clothes annually, and a shilling loaf of bread. At his death, a sum of 6,000*l.* was bequeathed to his son for the same purpose.*

The original school building being considered inadequate, the late Sir Robert built a new one in 1837, and made some alterations in the establishment. He never ceased to take a deep interest in this school, but his attention was specially devoted to it on his retirement from the government of the country.

In 1850 he resolved on rebuilding the school upon an improved plan, and on a more capacious site. The remodelling of this institution formed one of the latest subjects of his solicitude, and he was in frequent correspondence with his architect (Mr. Sydney Smirke) respecting the detailed arrangements of the interior at the period of his lamented death.

The new building has been completed by the present baronet, and is now occupied. The walls are of brick, with stone dressings. The school-room is 49 feet × 25 feet: the roof is open, with ornamental framed trusses: the height is 27½ feet up to the ridge, and 14 feet up to the wall-plates. It is entered from an open porch. There are two class-rooms, fitted up for chemical lectures, and provided with drawings and mechanical models and mathematical instruments. The school-room is warmed by an open stove with descending flue, and it is ventilated by a louvred turret in the roof, by hopper ventilators in the windows, and by air-ducts near the floor.

* The school offers a good commercial education, at a very moderate cost, to the sons of persons belonging to the middle and lower classes, in combination with the purposes of the original endowment.

There are two classes of scholars—one consisting of boys paying a small sum for their education; the other of boys on the foundation, receiving gratuitous instruction.

It being intended that the master shall train up pupil teachers, selected from the most proficient and apt scholars (whether on the foundation or not), the course of instruction embraces the following subjects (quoted from the minutes of the committee of council):—

English Grammar and Composition; Geography, Descriptive, Physical, and Historical; the Use of the Globes; English History; Common, Decimal, and Mental Arithmetic; Book-keeping; the Elements of Mechanics; Mensuration; the Elements of Land Surveying and Levelling; the Rudiments of Algebra; Vocal Music; Model Drawing; and the Elements of Agricultural Chemistry.

The foundation boys are provided with their education, books, and slates, free of expense, and receive a suit of clothes, and cap, annually, at Whitsuntide.

The foundation is open to the sons of labouring or poor men residing in the parish of Tamworth, not being under eight years of age.

Boys not on the foundation pay 10*s.* per quarter.

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